SECTION 16670
LIGHTNING PROTECTION SYSTEM

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide system complying with UL and bearing the Master-C label.

1.2 QUALITY ASSURANCE

A. System standards: ANSI/UL-96, and NFPA-780.

1.3 SUBMITTALS

A. Shop drawings:
   1. Lightning protection system:
      a. Roof penetration details.
      b. Complete layout indicating all connections, down conductors and grounding tripads.

B. Product data:
   1. Technical data on each component.

C. Contract closeout information:
   1. UL Master label.

PART 2 - PRODUCTS

2.1 LIGHTNING PROTECTION SYSTEM

A. Lightning protection system: Complete Master Label lightning protection system.

B. Acceptable manufacturers:
   1. Lightning protection system:
      a. Base: Listed in lightning protection section of current edition of UL electrical equipment test.
         1) Thompson Lightning Protection.
         2) Robbins Lightning Protection.
         3) Heary Brothers Lightning Protection.
         4) Independent Protection.
         5) AC Lightning Security.
         6) National Lightning Protection.
   2. Other manufacturers desiring approval comply with Document 00440.

2.2 MATERIALS

A. Materials - General: Labeled for lightning protection systems by UL.
   1. All components designed to blend in with appearance of building so that it appears as part of building.
   2. Maximum concealed, semi-concealed or totally exposed system as required to meet Government's requirements.

B. Conductors: Copper or aluminum, grade ordinarily used for commercial electric work and of weight required by height of building.

C. Air terminals: Solid copper or aluminum rod with tapered point, of height required.
   1. Attach rods to building with proper cast bronze or copper base to adapt to building design.

D. Ground rods: 3/4 IN x 10 FT copper weld.

E. Main ground connection fittings: See Section 16450.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Do not install copper conductors or fastenings in contact with aluminum surfaces.

B. Install down conductors in conduit.

C. Terminate each downlead cable in grounding arrangement suitable to local soil condition and applicable codes.
   1. Maximum ground resistance: 10 ohms.
   2. Use tripods each containing three rods, located as required.
   3. Make connection to ground rods with Cadweld method or UL listed compression fitting for all connections buried in earth.
   4. If necessary, drive additional ground rods to obtain 10 ohms.
   5. Do not cover or bury ground rods until observed by the Government.

D. Interconnect all metal items on roof (such as ventilators, stacks, pipes, gutters, downspouts, ducts, tracks, antennas, water pipes, ladders) to main conductor system.

E. Provide connection to incoming electric and telephone service ground per NEC for common bonding.

F. Provide roof flashings or other method approved by roof manufacturer for down conductor or fittings passing through roofs. Do not use pitch pockets.

G. Remove and replace any items found not in compliance with specification requirements.

END OF SECTION